

Docket No.: 3095-009

APR 20 2007

PATENT**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-42 (cancelled).

43. (Currently Amended) An improvised membrane-based device for speedier and effective concentrating of aqueous solution, the device comprising:

- (a) a solution container for containing herbal extracts;
- (b) a permeate solution container in fluid connection with the solution container and separated therefrom by a diaphragm type pressure pump through which extract solution enters into a filter vessel to remove suspended particle from feed extract;

said filter vessel having:

- (b1) an air bleeding valve to remove any trapped air in the system;
- (b2) a fabric filter for clearing the solution;

- (c) a membrane module in fluid connection with the solution container for receiving the cleared solution from the fabric filter through the membrane module the permeate is separated and the concentrate is recycled to ~~the extract~~ an container;

said membrane module comprising a plastic body housing the membrane having,

- (c1) an inlet connected to the pressure pump for introducing the clear solution; a concentrate outlet for recycling the extract to the extract container;
- (c2) a permeate outlet connected to the permeate container for sending the water to the permeate container;
- (c3) a rubber 'O' ring to separate the permeate from the concentrated extract at the outlets of the module; and
- (c4) a by pass seal for allowing the extract solution to pass through the membrane;

~~wherein the membrane module have~~ has length to diameter in the ratio of about 6 to 1 and over all thickness ranging between 130 to 170 microns, and said module comprises a spiral thin film composite membrane

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allowing water to pass while retaining other components, and the solution to circulate in the system device;

(d) a water reservoir and an air compressor being in fluid communication with the membrane module;
the device further comprising:
six solenoid valves which control the direction of the flow during the concentrate, drain and wash modes, respectively; and
a back pressure regulator.

44. (Previously Presented) The device as claimed in claim 43, wherein the device maintains stability of the solution by functioning at room temperature, preferably about 25°C.

45. (Previously Presented) The device as claimed in claim 43, wherein the device concentrates the aqueous solution without frothing.

46. (Previously Presented) The device as claimed in claim 43, wherein the concentrate retains all constituents of the solution.

47. (Previously Presented) The device as claimed in claim 43, wherein the solution container is a vertical container or a reservoir for continuous supply of feed.

48. (Previously Presented) The device as claimed in claim 43, wherein the permeate container with provided with an outlet valve continuously removing water.

49. (Previously Presented) The device as claimed in claim 43, wherein the filter vessel coupled with the air bleeding valve to remove suspended particles and trapped air to allow clear solution to flow into the membrane module and for preventing froth formation respectively.

50. (Previously Presented) The device as claimed in claim 43, wherein the solenoid valves helps changing the path of aqueous solution/ water during the drain/ wash mode for

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operation.

51. (Previously Presented) The device as claimed in claim 43, wherein the diaphragm type pressure pump is installed to attain adequate pressure for continuous flow of aqueous solution.

52. (Previously Presented) The device as claimed in claim 43, wherein the control panel coupled with ON and OFF switch helps concentrating the aqueous solution, and continuously washing the membrane for optimum life.

53. (Previously Presented) The device as claimed in claim 43, wherein the aqueous solution container has length and diameter in the ratio of about 4:1.

54. (Previously Presented) The device as claimed in claim 43, wherein the permeate container has length and diameter in the ratio of about 4:1.

55. (Previously Presented) The device as claimed in claim 43, wherein the solenoid valves controls the direction of the flow in modes selected from a group comprising concentrate mode, drain mode, and wash mode.

56. (Previously Presented) An improved process of speedier and effective concentrating of the aqueous solution up to about 95% using a membrane-based device, said method comprising the steps of:

- a. feeding the aqueous solution into the aqueous solution container,
- b. filtering the fed solution to remove suspended particles,
- c. passing the resultant filtered solution into a membrane module having length to diameter ration of about 6 to 1 and over all thickness ranging between 130 to 170 microns;
- d. segregating permeate and concentrate in the membrane module, and
- e. recycling the concentrate multiple times to obtain the highly concentrated final concentrate.

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57. (Previously Presented) The process as claimed in claim 56, wherein the process is conducted at room temperature, preferably about 25°C to maintain stability of the solution.

58. (Previously Presented) The process as claimed in claim 56, wherein the concentrate of the aqueous solution is without frothing.

59. (Previously Presented) The process as claimed in claim 56, wherein the concentrate retains all constituents of the solution.

60. (Previously Presented) The process as claimed in claim 56, wherein the vertical container works as a reservoir for continuous supply of feed.

61. (Previously Presented) The process as claimed in claim 56, wherein the permeate container with outlet valve continuously removes water.

62. (Previously Presented) The process as claimed in claim 56, wherein the filter vessel coupled with air bleeding valve enables removal of suspended particles and trapped air, respectively, thus, allows only clear solution to flow into the membrane module.

63. (Previously Presented) The process as claimed in claim 56, wherein the solenoid valves helps changing the path of aqueous solution/ water during the drain/ wash mode for operation.

64. (Previously Presented) The process as claimed in claim 56, wherein the pressure pump enables adequate pressure to be attained for continuous flow of aqueous solution.

65. (Previously Presented) The process as claimed in claim 56, wherein the control panel coupled with ON and OFF switch helps concentrating the aqueous solution, and continuously washing the membrane for optimum life.

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66. (Previously Presented) The process as claimed in claim 56, wherein the aqueous solution container has length and diameter in the ratio of about 4:1.

67. (Previously Presented) The process as claimed in claim 56, wherein the permeate container has length and diameter in the ratio of about 4:1.

68. (Previously Presented) The process as claimed in claim 56, wherein the solenoid valves controls the direction of the flow in modes selected from a group comprising concentrate mode, drain mode, and wash mode.

69. (Previously Presented) The process as claimed in claim 56, wherein the process eliminates the hold-up volume.

70. (Previously Presented) The process as claimed in claim 56, wherein the process minimizes the membrane fouling.

71. (Previously Presented) The process as claimed in claim 56, wherein the process prevents contamination of the solution.

72. (Previously Presented) The device as claimed in claim 43, wherein the solenoid valves are coupled with a control panel with ON and OFF switch for operating the device in concentrate, drain and wash mode.

73. (Previously Presented) The process as claimed in claim 56, wherein the process further comprises steps of supplying the compressed air to the membrane module through the filter to pressurize the concentrate hold up in the membrane module.